



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

JENNIFER COHAN  
SECRETARY

**MEMORANDUM**

**TO:** Susanne Laws, Sussex Review Coordinator  
**FROM:** Troy Brestel, Project Engineer TEB  
**DATE:** March 25, 2020  
**SUBJECT:** **Howard T. Ennis School (Protocol Tax Parcel #133-7.00-8.01)  
Results of Traffic Operational Analysis (TOA)**

---

We have reviewed the traffic operational analysis (TOA) for the proposed Howard T. Ennis School, submitted by Traffic Planning and Design, Inc., on February 6, 2020. The analysis evaluates the traffic impacts of the proposed development, which is to be located on the east side of Patriots Way (Sussex Road 318), across from the existing Sussex Central High School, in Sussex County. The proposed development would consist of a 157,000 square foot special needs school. One full access is proposed across from the central access to the existing high school. Construction is expected to be complete by 2022.

Based on our review, we find that the Sussex Central High School south entrance / Patriots Way intersection and the proposed site entrance / Sussex Central High School middle entrance / Patriots Way intersection would operate at level of service (LOS) D or better during the a.m. and p.m. peak hours for both present and future conditions, and would meet the LOS criteria listed in Chapter 2 of the Development Coordination Manual.

For the Sussex Central High School north entrance / Patriots Way intersection, the high school eastbound approach would operate at LOS E during the a.m. peak hour for both present and future conditions. However, the 95% queue length for this approach would only be approximately 125 feet for each condition analyzed during the a.m. peak hour and is the result of the higher operating volumes at this intersection during the beginning of the school day for the high school. We do not recommend any improvements to be made to this intersection.

Based on DelDOT's Auxiliary Lane Worksheet (dated 6/26/19), a 220-foot southbound left-turn lane (which includes a 100-foot taper) along Patriots Way at the site entrance would be warranted. Given the proximity of the northbound left-turn at the northern entrance to the Sussex Central High School, it is recommended that the developer coordinate with DelDOT's Development Coordination section on the exact details of the design of the left-turn lane during the plan review process.

Please note that this analysis generally focuses on capacity and level of service issues. Other comments relating to bicycle, pedestrian, and frontage improvements may be made during the plan review process. LOS tables for the existing and future cases are attached with this memorandum.

TB:km

cc: Eric Ostimchuk, Traffic Planning and Design, Inc.  
Colmcille DeAscanis, CDA Engineering, Inc.  
J. Marc Coté, Director, Planning  
Michael Simmons, Assistant Director, Project Development South, DOTS  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
Chris Sylvester, Traffic Studies Manager, Traffic, DOTS  
James Argo, South District Subdivision Supervisor, South District, DOTS  
Claudy Joinville, Project Engineer, Development Coordination  
Brian Yates, Johnson, Mirmiran & Thompson, Inc.

Table 1  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Howard T. Ennis School – TOA  
 Prepared by Traffic Planning and Design, Inc.

Unsignalized Intersection <sup>1 2</sup>	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Site Entrance / Sussex Central Middle Entrance / Patriots Way				
2019 Existing				
Northbound Patriots Way Left-Turn	A (8.5)	A (8.0)	A (8.5)	A (8.0)
2022 without development				
Northbound Patriots Way Left-Turn	A (8.5)	A (8.0)	A (8.5)	A (8.0)
2022 with development				
Northbound Patriots Way Left-Turn	A (8.2)	A (7.9)	A (8.2)	A (7.9)
Southbound Patriots Way Left-Turn	A (8.6)	A (*)	A (8.5)	A (*)
Westbound Site Entrance	C (20.2)	C (15.1)	C (20.1)	C (15.1)

<sup>1</sup> Numbers in parentheses are average vehicle delay, measured in seconds.

<sup>2</sup> The (\*) symbol in the table denotes that no measurable value was observed in the analysis, due to the movement having zero volume.

Table 2  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Howard T. Ennis School – TOA  
 Prepared by Traffic Planning and Design, Inc.

Unsignalized Intersection <sup>1</sup>	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Sussex Central South Entrance / Patriots Way				
2019 Existing				
Northbound Patriots Way Left-Turn	A (7.9)	A (8.1)	A (7.9)	A (8.1)
Eastbound Sussex Central Entrance	C (20.0)	C (17.5)	C (20.0)	C (17.4)
2022 without development				
Northbound Patriots Way Left-Turn	A (7.9)	A (8.1)	A (7.9)	A (8.1)
Eastbound Sussex Central Entrance	C (20.3)	C (17.6)	C (20.3)	C (17.5)
2022 with development				
Northbound Patriots Way Left-Turn	A (7.9)	A (8.4)	A (7.9)	A (8.4)
Eastbound Sussex Central Entrance	C (19.9)	C (20.1)	C (19.9)	C (20.1)

---

<sup>1</sup> Numbers in parentheses are average vehicle delay, measured in seconds.

Table 3  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Howard T. Ennis School – TOA  
 Prepared by Traffic Planning and Design, Inc.

Unsignalized Intersection <sup>1</sup>	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Sussex Central North Entrance / Patriots Way				
2019 Existing				
Northbound Patriots Way Left-Turn	B (10.4)	A (7.6)	B (10.4)	A (7.6)
Eastbound Sussex Central Entrance	E (36.9) <sup>2</sup>	C (17.9)	E (36.8) <sup>2</sup>	C (17.9)
2022 without development				
Northbound Patriots Way Left-Turn	B (10.4)	A (7.6)	B (10.4)	A (7.6)
Eastbound Sussex Central Entrance	E (38.2) <sup>2</sup>	C (18.1)	E (38.2) <sup>2</sup>	C (18.1)
2022 with development				
Northbound Patriots Way Left-Turn	B (10.7)	A (7.5)	B (10.7)	A (7.5)
Eastbound Sussex Central Entrance	E (43.8) <sup>2</sup>	C (20.8)	E (43.7) <sup>2</sup>	C (20.7)

---

<sup>1</sup> Numbers in parentheses are average vehicle delay, measured in seconds.

<sup>2</sup> The 95% queue length is approximately 5 vehicles, or 125 feet.